AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

1. (Currently Amended) A correlator, which figures out a correlation between an input signal which is ~~a pulse~~ an impulse train and a template train which is a predetermined time-series signal, comprising:

a template train generator for generating the template train which is a signal in which a template is repeated;

a multiplier for ~~multiplying the input signal by the predetermined time-series signal~~ calculating through multiplication a correlation value between the template train and the impulse train;

a first integrator for integrating an output of the multiplier;

a quantizer for quantizing an output of the first integrator; and

a negative feedback path for negatively feeding an output of the quantizer back to the first integrator.

2. (Previously Presented) The correlator as defined in claim 1, further comprising:

an adder which adds the output of the multiplier to the output of the quantizer and supplies an output to the first integrator.

3. (Previously Presented) The correlator as defined in claim 1, further comprising:

a second integrator for integrating the output of the quantizer.

4. (Original) The correlator as defined in claim 1, further comprising:

a converter provided on the negative feedback path, which converts a digital signal to an

analog signal.

5. (Original) The correlator as defined in claim 1, wherein, the input signal is an impulse

train which has been subjected to pulse position modulation in accordance with digital data.

6. (Original) The correlator as defined in claim 5, wherein, the predetermined time-

series signal is generated in accordance with impulses of the impulse train, the impulses being

different from each other.

7. (Previously Presented) The correlator as defined in claim 1, wherein, the input signal

is the pulse train which has been subjected to BPSK modulation in accordance with digital data.

8. (Original) The correlator as defined in claim 7, wherein, the predetermined time-

series signal is composed of rectangular waves corresponding to the pulse train.

9. (Currently Amended) A parallel correlator, comprising a plurality of correlators being parallel to each other, each of the plurality of correlators, which figures out a correlation between an input signal which is ~~a pulse~~ an impulse train and a template train which is a predetermined time-series signal, including:

a template train generator for generating the template train which is a signal in which a template is repeated;

a multiplier for ~~multiplying the predetermined time-series signal by the input signal~~ calculating through multiplication a correlation value between the template train and the impulse train;

an integrator for integrating an output of the multiplier;

a quantizer for quantizing an output of the integrator; and

a negative feedback path for negatively feeding an output of the quantizer back to the integrator.

10. (Original) The parallel correlator as defined in claim 9, further comprising a delay circuit for regulating a clock supplied to the plurality of correlators.

11. (Previously Presented) A correlator which figures out a correlation between an input signal which is a pulse train and a predetermined time-series signal, comprising:

a multiplier for multiplying the input signal by the predetermined time-series signal;

a first integrator for integrating an output of the multiplier;

a sampling circuit for sampling an output of the first integrator;

a second integrator for integrating an output of the sampling circuit;

a quantizer for quantizing an output of the second integrator; and

a negative feedback path for negatively feeding an output of the quantizer back to the second integrator.

12. (Original) The correlator as defined in claim 11, wherein, the first integrator is an integrator which attenuates at a certain time constant.

13. (Previously Presented) The correlator as defined in claim 11, further comprising an adder which adds the output of the sampling circuit to the output of the quantizer and supplies an output to the second integrator.

14. (Previously Presented) The correlator as defined in claim 11, further comprising a third integrator for integrating the output of the quantizer.

15. (Original) The correlator as defined in claim 11, further comprising a converter provided on the negative feedback path, which converts a digital signal to an analog signal.

16. (Original) The correlator as defined in claim 11, wherein, the input signal is an impulse train which has been subjected to pulse position modulation in accordance with digital data.

17. (Original) The correlator as defined in claim 16, wherein, the predetermined time-series signal is generated in accordance with impulses of the impulse train, the impulses being different from each other.

18. (Previously Presented) The correlator as defined in claim 11, wherein, the input signal is the pulse train which has been subjected to BPSK modulation in accordance with digital data.

19. (Original) The correlator as defined in claim 18, wherein, the predetermined time-series signal is composed of rectangular waves corresponding to the pulse train.

20. (Currently Amended) A receiver, comprising a correlator which figures out a correlation between an input signal, which is a pulse train and a predetermined time-series signal, the correlator including:

a template train generator for generating the template train which is a signal in which a template is repeated;

a multiplier for multiplying the predetermined time-series signal by the input signal calculating through multiplication a correlation value between the template train and the impulse train;

an integrator for integrating an output of the multiplier;

a quantizer for quantizing an output of the integrator; and

a negative feedback path for negatively feeding an output of the quantizer back to the integrator.

21. (New) The correlator as defined in claim 1, wherein the quantizer performs binary quantization.

22. (New) The correlator as defined in claim 1, wherein

the impulse train is a signal in which a monocycle is repeated, and

the template train is a signal in which a template obtained from two monocycles is repeated.

23. (New) The correlator as defined in claim 1, wherein the impulse train is a signal having been subjected to pulse position modulation.

24. (New) The correlator as defined in claim 1, further comprising:

synchronization means for synchronizing the template train with the impulse train.